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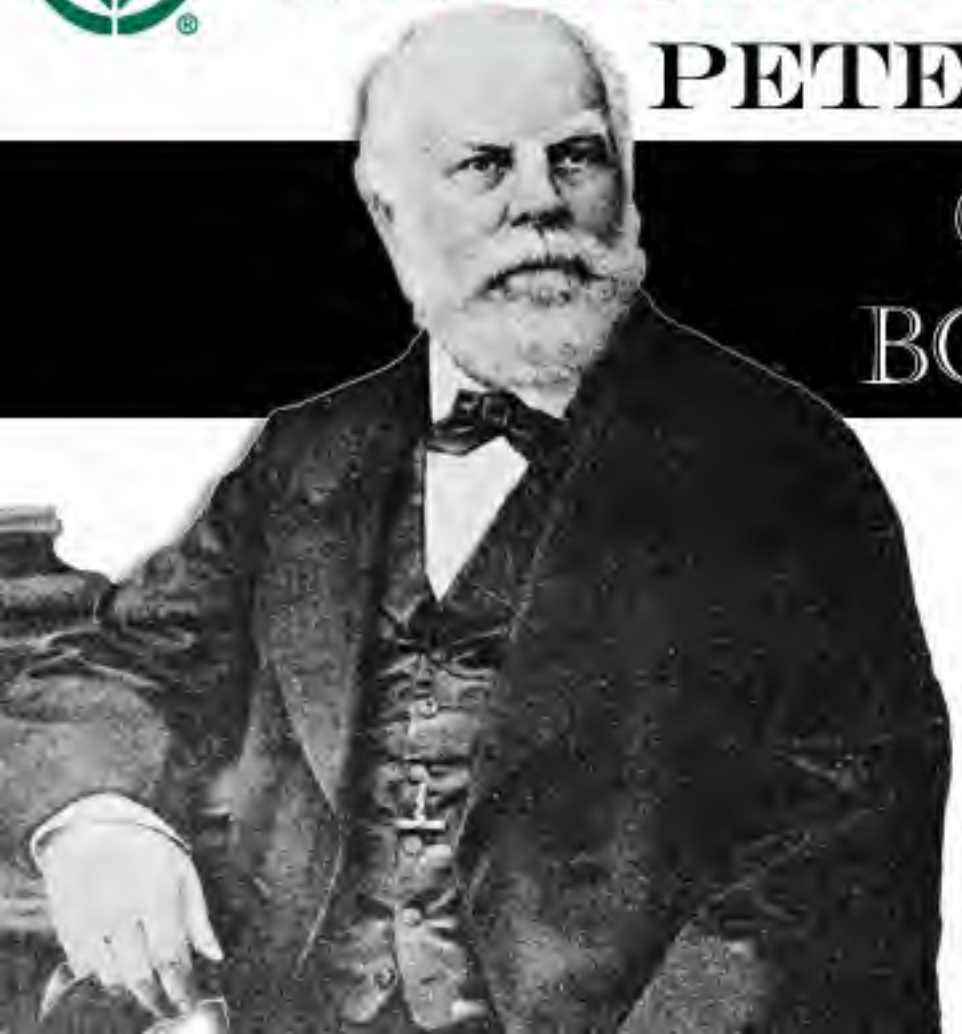

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Abies balsamea

762-5

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Abiosamea which is a very
slender tree in this country
and a tree 30 to 40 feet high
will have all it comes within
5 or 6 feet of the summit
I am informed that spruces

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Picea balsamea Lond Arb. Br.

P 2339

Figures rude & coarse

conte Cones

long cones, "dark

purple" "4 or 5" "long"

"rarely seen in Scotland"

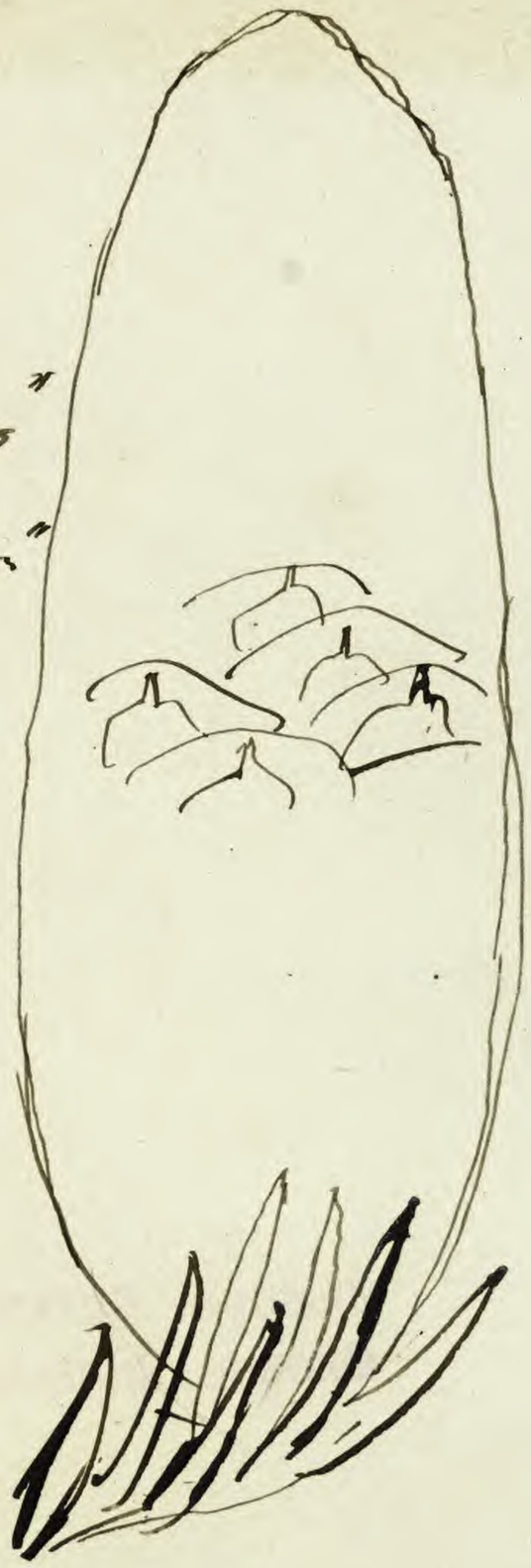
about 20 or 30 feet

high

Bracts, almost

as long as scales

(in the figure)



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J.C. Kirkbride APOTHECARY ST. LOUIS, MO. 2348 AND 3500 Olive St.

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ST. LOUIS BOLT AND IRON CO.

MANUFACTURERS OF

MERCHANT IRON, FISH BARS, BOLTS, SPIKES,

STREET RAIL, MINE RAIL, WIRE ROD, ETC., ETC.,

Office, Republican Building, Third and Chestnut Sts.,

St. Louis, Jany 26 1876.

D. Geo. Engelmann

Dear Sir

I enclose you ck for $147.— being amount due you as per enclosed bill.—

I am greatly distressed to have been compelled to postpone the payment of this bill and ask your pardon for the unavoidable delay.—

I need not say in explanation that an extraordinary strain on our family perhaps known to you, as well as the distressed condition of all trades particularly our branch has been the cause of it.

I sincerely hope that nothing may

Hypoderm cells in A balsamea

Jan 1878

Hort Bot Kirtland 1872 — none on upper surface in some leaves none at all in others a few cells at keel — in these also a few on edges —

Newberry, Gilman July 1872 none on upper surface, nor any other else

Hoopes coll. 1872 none on upper surface — in thick leaves strongly developed on keel and sides and extends to below the dorsi. T in flat leaves none at all

Cambridge, Gray Jan 2 1873 Thick leaves — hypoderm well developed around edges, none at keel — none above

Michigan, Gillman 1873 — two kinds, flat leaves, no hypoderm cells at all

12888

A balsamea

Stomata on upper side usually few in grooves, in thick leaves of mostly towards tip ~~sterile~~ robust shoots or fertile branchlets of the whole upper surface covered

— on lower side in 2 bands, in each band 6. 6-8. 4-7

4-6 . 6-7 = 4-8

native plants 7. 6. 5-8. 5-6- = 5-8 rarely only 2-4

Top of Mount Washington 7-8

Michigan — Thick leaved 2-4 lines

native and cult. plants have 4-8 lines of stomata in each band

only a specimen from Gillman, Michigan shows in thick leaves 2-4 lines in each band, while the flat leaves of same show 6-7 lines

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Abies Mayriana

Bolander

1 Leaf; Cotyledon 10

1 —— 7

1 —— 8

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Wm H Brewer's Miss Notes made on his
Explorations in California

Mount Silliman
June 29. 1864. I find the Pinus nobilis here
mixed with P. amabilis [magnifica] quite abundantly
the first I have seen south of Mt Shasta. The habit
of the two is so similar, that I have not learned
to distinguish them without the cones. Climbed a high
tree and got cones of undoubted P. nobilis

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GEO. ENGELMANN, M. D.

3003 *Locust Street.*

St. Louis, Mo., July 26 1878

O Matthay Esq

Dear Sir

Your Telegram of this morning is either

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Rolando Dec 24 1869

2 Abies amabilis [magnifica] 7000–10000 feet alt.
bark reddish-cinnamon-brown, called
Red fir cones very tomentose
leaves at base kneed — wood good &
valuable

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Prof. Mc Nab in Annals of
the Sperin of Abies 1877
pag 701 that his father, of the Edinburg
Bot Garden had made a note to
A. magnifica:

"I think it likely that in certain
sorts A. nobilis, robusta and
magnifica may all turn out
to be the same, although distinct
in the Garden here."

same page:

Hb. Hook: 1. Sierra Nevada, California, W. Lobb
2. California H. Dow., Clapton.

Hb. Lind. 1. Picea robusta magnifica 1480. Jeffrey 6 x 2¼
2. Pinus sp. nov. California, D. Lawson & Son
on 9 x 2½ inch
3. P. magnifica robusta 1480. Oregon
Jeffrey 1853. — com 8½ x 2½ in

(this last is P. campylocarpa Murray
Trans Bot Soc. VI. 370

12892

lui restent [illegible] inconnus.

Je suis convaincu qu'il soit autant l'intérêt de la science que des Mrs. les auteurs, s'ils voulaient bien me communiquer le plus tôt possible leurs publications rélatives à la matière susdite.

En équivalent je me permets d'offrir mes propres publications, si vous voudriez bien m'envoyer des ouvrages plus importants.

Pour le cas de communication des copies spéciales des annales de société veuillez noter exactement l'année de la publication.

Agréez monsieur l'assurance de mes sentiments les plus dévoués.

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DR. A. ENGLER.

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Gardners' Chronicle Jan. 30 1875

p. 148

George Syme, Ayston Nurseries writes to the Chronicle: (A. magnifica is sent to England as A. nobilis)

A. magnifica and A. nobilis are very distinct:

The largest magnifica in England are now 9 feet high.

A. magnifica

Cotyledons 7-9 in number 1-1½ inch long thin, glaucous above, dull green below

leaves of seedling plant ½-1 inch long narrow with sharp pointed fold on slightly convex above

corresponds with my own observations

faint stomata on the upper, and all over the lower convex surface

Mature leaves of older plant.

slightly falcate, incurved, blunt somewhat 4 sided ¾ - 1½ inches long ridged and covered with faint glaucous stomata above, ridged and with (two) 4 pale broad bands below

A. nobilis

5-6 in number 1-1½ inch long broader, faint shiny above, glossy green below ½-1 inch long blunt pointed distinctly channeled above

faint stomata on upper, clear white stomata over the lower slightly convex surface

falcate, incurved blunt often slightly notched broader, ¾ - 1¼ inch long channeled ¾ of their length rich blueish green above slightly keeled, and with 2 and sometimes 4 ribbony bands below.

Abies Magnifica was known in Messrs Dickson & Turnbull's nursery, Perth, Scotland, as Picea nobilis var robusta, some 15 years ago

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Rec Aug 13th
Ans — 16

J. G. Lemmon,

Sierra Valley, Cal.

Amateur Botanist, Collector in Natural History,

AND DEALER IN

SEEDS, BULBS and ROOTS of Rare California Plants.

Sierraville, Sierra Co. Cal., Aug 9th 1875.

Dr. Geo. Englemann,

My dear Dr,

Returning from a six weeks exploration of Lassen's Peak and his alpine neighbors I find a mass of correspondence in waiting. After dealing with those entitled by their long acquaintance & preference, I come now to those who, strangely enough, have sought out and honored me with their favors.

Among them I assure you, none are more welcomed and prized than yourself. Your letter thrills me with its inquiries about the tree of all others

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the most interesting to me. Long
the object of my wonder & admiration
it has lately become the center
of profound respect — almost veneration.
It is the acknowledged queen of
our Cal. forests known here as the
Picea amabilis but well deserving
the English name, Abies magnifica.

It is quite secluded in habit.
keeping upon the highest plateaus just
around the bold alpine summits.

Its near relative the A. grandis, or
as you & Dr. Parry have it, concolor, is
more abundant and forms large
belts of forest at a much lower
altitude. 4,000 & 7,000 feet.

You have been correctly informed
of my locality. Sierra valley lies
5,300 feet high among snow-clad peaks
for nine months of the year. It is
fringed with conifers such as Pinus
ponderosa, P. Lambertiana, Libocedrus

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decurrens and Abies Douglasii, higher
on the slopes on the nearly bald
eastern side slopes comes in the Juniperus
occidentalis; on the west the Pinus
monticola, and Abies Pattoniana lapping on to the sub-
alpine snow-striped plateaus of the
high sierra, where reigns in its
lofty grandeur the matchless Red Fir
of California. From Mt Dana to
Mt Shasta the extremes of my explor-
ations, this beautiful tree at intervals is formed
with scattered groves of A. Pattoniana
Pinus monticola, excepting the bald
summit of the lofty sierra. It often
attains at lowest localities a great
size with straight, clean shaft 100 feet
and more, its thick, deeply cleft, red
bark often decorated on one side for 50 feet with
the bright yellow Evernia vulpina.
Lumbermen prize the red fir for
flooring, ceiling, fencing and light inside work, but
it soon warps and decays in open air,

with white or ashy bark, less broken

The white fir, A. grandis, is less prized
as it is too light and too easily separates
into fibers, but because it has no odor
when dried & is dressed by a plane, it is largely
used by dairy men for butter boxes and
firkins. This fir grows generally much
larger than the other, often 8 to 5 feet in dia-
In large plateaus of about 6,000 feet alt. all
the pines mentioned, the three firs (omitting
Abies Pattoniana) and the bastard cedar are
found growing. This then the A. amabilis
shows her royal blood, at once attracting
the most careless eye.

These two firs bear every alternate year (on the
even numbers) ripen at the same time, last year
at from Oct 5th to 27th. The cones of the amabilis
are 6 inches long to 9 inches and half as thick, a
little flattened at both ends, of a beautiful purple color
generally, but often yellow. The wood described by some
writers & have never detected.

The cones of the A. grandis are smaller, but 3 to
6 inches long, half as thick, of the same shape but
having a dark green color.

There my dear Dr. So much now in answer
to your inquiries. I go up to-morrow to Walker
lake, my nearest grove of Picea amabilis (also
near which grows every other conifer mentioned in
this letter,) and there I will hastily get more
items you desire. On my return I will send the items
with such young plants and small twigs as are
then dried to you. I must do all this hurriedly
as it is now time to be off to the Big Trees
170 miles away in Calaveras Co. This is my next
trip. I am collecting general flora and tree
sections for the centennial exhibition at the request
of Gov. Vasey prompted by Dr. Gray. Next winter
you may have larger specimens of the conifers if
you desire.

You kindly ask me to charge my expenses &
for my time. I love the science so well that
I would make no charges but that I am poor
and must soon tire at my present fast rate,
So you may please allow me what you will
at the end of the season.

Hastily but very sincerely J. G. Lemmon.

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Rec'd June 4th 14
Ans — 4

Sierra Valley, Cal.,
May 27, 1877,

My dear Dr. Engelmann,

Your favor of the 18th is at hand, Many thanks for your advice to leave microscopic study to you and to study Nature on the mountain tops, &c, It is very good advice, but I cant follow it just yet; My stage illness confines me to home yet, It is so provoking, to be neither sick-abed nor able to work,

I have changed to an English physician, a new-comer, & hope for recovery, Am all ready with covered-wagon, horses, out-fit complete — only lack health!

I'm glad you quoted from my letter regarding statistics on Abies. It gives me a chance to see exactly where the mistake lies. In the 2nd column of figures for the abbreviation "Cones bu." I mean Cones, bushels; i.e. the quantity of cones I gathered from the trees respectively, I did not attempt (this last winter) since, done so, I given the length of A. magnifica about 8 inches and " concolor " " 4 "

Did I not send your twigs containing the spindles or naked axes? If not it was a stupid blunder. I sent so much of every kind of tree to the Ag. Dept. for the Centennial, that I forget to supply you.

Your talk helps me nicely in regard to distinguishing magnif. from concolor, but how about the two forms of magnifica of for

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which I wrote you!

For fear you mistake me again, let me state that my last column of figures relates to the diameter of the trees in feet & inches,

What Bolander & others tell you of the qualities of our fir trees as timber trees, ~~does~~ not fully accord with my observation, The red fir (magnifica.) is used to some extent as an inferior kind of building lumber, as boards, planks, square bridge timbers &c, but the wood has a bitter taste that renders it unfit for boxing moist goods as butter, meats, fruits &c, The white fir, (concolor,) is not even so desirable for lumber as the red, but for lumber that is to be housed it is often manufactured, and all our butter-boxes and meat packages, are made of white fir, it being light, clean and entirely scentless, Now Known Cal. is remarkable for its dairy-products and

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dare say that among the tons of butter & cheese exported you will not find a pine or red fir box,

I am the one Dr. that appealed to you to use your authority and restore the old names of Picea to the pitchy balsams, and Abies to the spruces, The difference as to the persistence of the cone scales, and the arrangement of buds, certainly ought to be generic

So that 'lyrate-leaved oak bush is still a puzzle! It riveted my attention by the low form, the large & profuse leaves, and large and curious acorns, I have seen it only the one locality near the Calaveras grove of Big-Trees.

Thanks for your congratulations upon Lasmonia Cal, I have but four specimens. Did you not get it in a set of southern plants from Parry?

My Rural artical on Webber lake has been delayed while negotiating for the expenses of its publication, The illustrations will cost $50. to $75 to get them engraved, We have arranged to have 1,000 copies of the Rural printed for $100, The engraving is now going forward & I expect the article to appear any issue, 200 copies are to be in pamphlet form of the size of the largest engraving, (the hotel & surroundings) I will send copies if both, I expect you will object to my glowing language, but I describe nature as it really is, not as it seems to a distempered mind, My biography I fear Dr, Webber at the close, you will call sextravagant, but any man who has brought up 22 orphan children is entitled, I think, to unmeasured praise,

Yours as long as I can be of use J.G. Lemmon,

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